PKR Rabbit mAb

Catalog No	YP-rAb-17561
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,IP,ELISA
Gene Name	EIF2AK2
Protein Name	Interferon-induced double-stranded RNA-activated protein kinase
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:100-1:500; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	EIF2AK2 ; PKR ; PRKR ; Interferon-induced ; double-stranded RNA-activated protein kinase ; Eukaryotic translation initiation factor 2-alpha kinase 2 ; eIF-2A protein kinase 2 ; Interferon-inducible RNA-dependent protein kinase ; P1/eIF-2A protein k
Observed Band	62kD
Calculated Molecular Weight	62kD
Cell Pathway	Cytoplasm . Nucleus . Cytoplasm, perinuclear region . Nuclear localization is elevated in acute leukemia, myelodysplastic syndrome (MDS), melanoma, breast, colon, prostate and lung cancer patient samples or cell lines as well as neurocytes from advanced Creutzfeldt-Jakob disease patients. .
Tissue Specificity	Highly expressed in thymus, spleen and bone marrow compared to non-hematopoietic tissues such as small intestine, liver, or kidney tissues. Colocalizes with GSK3B and TAU in the Alzheimer disease (AD) brain. Elevated levels seen in breast and colon carcinomas, and which correlates with tumor progression and invasiveness or risk of progression.
Function	Catalytic activity:ATP + a protein = ADP + a phosphoprotein.,enzyme regulation:Activity is markedly stimulated by manganese ions. Besides dsRNA, heparin is a potent activator of the kinase. Binding to dsRNA is required for dimerization leading to autophosphorylation in the activation loop and stimulation

of function. Inhibited by vaccinia virus protein E3, probably via dsRNA sequestering.,Function:Following activation by double-stranded RNA in the presence of ATP, the kinase becomes autophosphorylated and can catalyze the phosphorylation of the translation initiation factor EIF2S1, which leads to an inhibition of the initiation of protein synthesis. Double-stranded RNA is generated during the course of a viral infection.,induction:By interferon.,PTM:Autophosphorylated on several Ser and Thr residues. Autophosphorylation of Thr-451 is dependent on Thr-446 and is stimulated by dsRNA binding and dimerization. Autophosphorylation apparently leads to the activation of the kinase.,similarity:Belongs to the protein kinase superfamily.,similarity:Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.,similarity:Contains 1 protein kinase domain.,similarity:Contains 2 DRBM (double-stranded RNA-binding) domains.,subunit:Homodimer. Interacts with STRBP (By similarity). Interacts with DNAJC3. Inhibited by direct interaction with viral proteins such as HCV E2, HCV NS5A and influenza A NS1. Activated by the interaction with HIV-1 Tat.,

Background

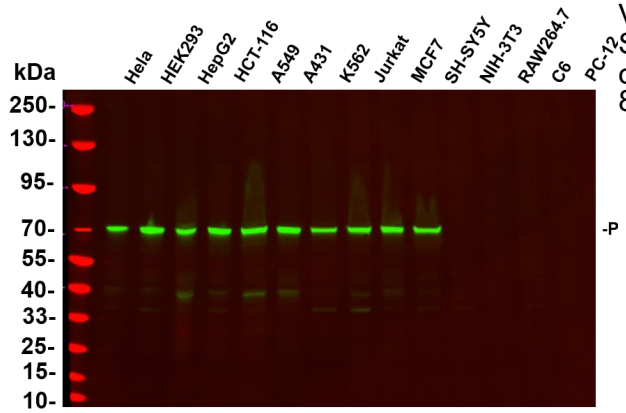
The protein encoded by this gene is a serine/threonine protein kinase that is activated by autophosphorylation after binding to dsRNA. The activated form of the encoded protein can phosphorylate translation initiation factor EIF2S1, which in turn inhibits protein synthesis. This protein is also activated by manganese ions and heparin. Three transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Oct 2011],

matters needing attention

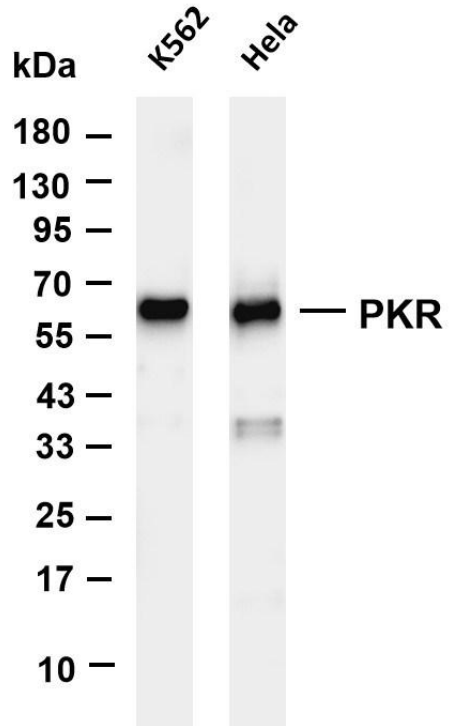
Avoid repeated freezing and thawing!

Usage suggestions

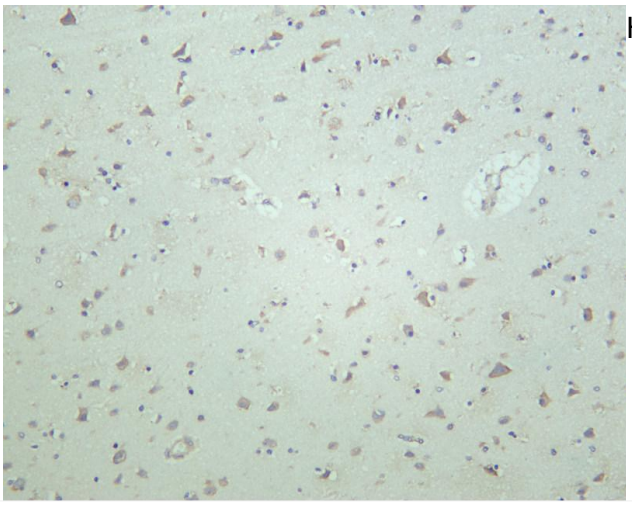
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



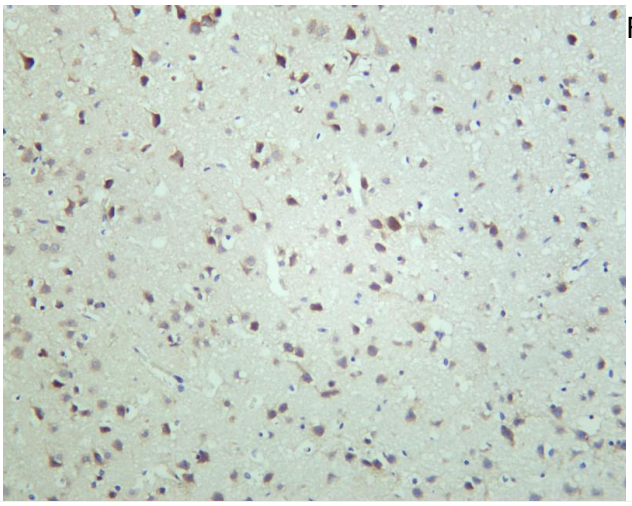
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the primary antibody was used at 4℃, over night with a 1:5000 dilution . The Dylight 800-conjugated Goat anti-Rabbit antibody



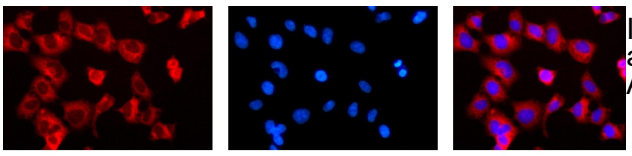
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-PKR antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: K562 Lane 2: Hela Predicted band size: 62kDa Observed band size: 62kDa



Human brain was stained with anti-PKR rabbit antibody



Rat brain was stained with anti-PKR rabbit antibody



A B C

Immunofluorescence analysis of HEK293. Picture A: PKR antibody (red). Picture B: DAPI (blue). Picture C: Merge of A+B